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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: J.G. BEDNORZ ET AL. : Date: March , 1988  
Filed: 05/22/87 : Serial No.: 06/053,307  
Group Art Unit: 115 : Examiner: Dennis Albrecht  
FOR: NEW SUPERCONDUCTIVE COMPOUNDS HAVING HIGH TRANSITION TEMPERATURE,  
AND METHODS FOR THEIR USE AND PREPARATION

DECLARATION OF PAUL M. HORN  
WITH RESPECT TO HIGH T<sub>c</sub> SUPERCONDUCTIVITY

Commissioner of Patents and Trademarks  
Washington, D. C. 20231

Sir:

I, Paul M. Horn, hereby declare and say that:

1. I am employed in the Thomas J. Watson Research Center of IBM Corporation at Yorktown, N.Y., where I am acting Director of the Physical Sciences Department. I received a PhD in Physics in 1973 from the University of Rochester.

2. In approximately November, 1986, I recall a conversation in which Chang C. Tsuei told me of measurements that he had recently done on samples of high T<sub>c</sub> superconducting materials which he said were received from J.G. Bednorz and K.A. Mueller, of Zurich, Switzerland. These were described as samples of the type described by Bednorz and Mueller in Z. Phys. B-Condensed Matter 64, pp. 189-193 (1986), i.e., superconducting copper oxide materials in the system La-Ba-Cu-O.

3. I recall my discussion with Chang C. Tsuei because he was quite excited about his measurements and explained to me that they were "very recent measurements" of resistivity versus temperature that he had made on these samples. I recall that Tsuei told me that the onset temperature for superconductivity was in the mid-thirty K range. Tsuei told me that the samples superconducting and that his results looked like the results published by Bednorz and Mueller in the Z. Phys. B.

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article mentioned hereinabove.

4. I do not recall seeing Chang Tsuei's actual data measurements, but was independently aware that the superconducting samples that he used were obtained from Bednorz and Mueller and I was familiar with the general composition of these superconducting samples.

5. All acts described hereinabove occurred in the United States, with the exception of the laboratory work of Bednorz and Mueller, which was performed in Zurich, Switzerland.

6. I further declare that all statements made hereinabove are of my own knowledge and are true and that all statements made on information and belief are believed by me to be true. Further, I declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of a Patent Application or any patent issuing thereon.

Paul M. Horn  
PAUL M. HORN

DATE: 3/30/88